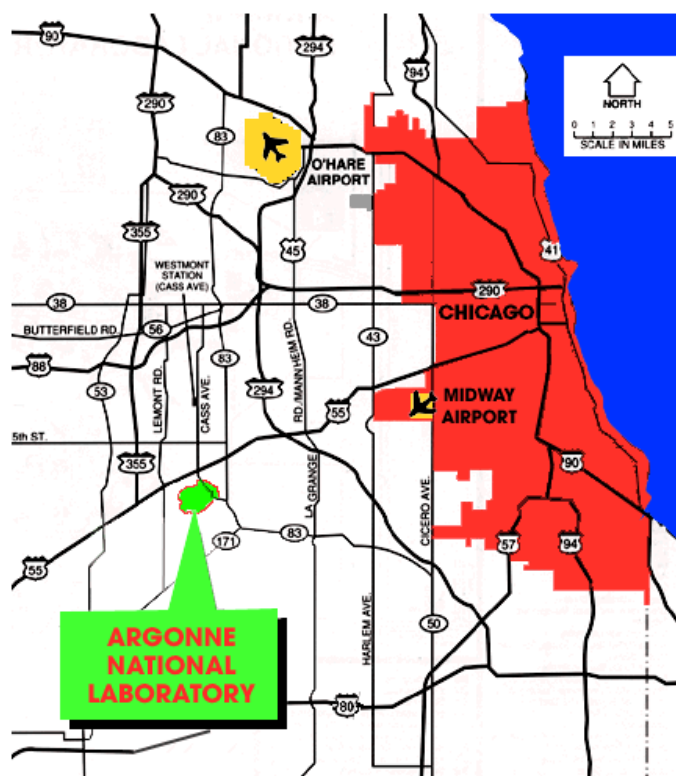


**FINAL ENVIRONMENTAL ASSESSMENT**  
**ENHANCED OPERATIONS OF THE ADVANCED PHOTON SOURCE**  
**AT ARGONNE NATIONAL LABORATORY-EAST**  
**ARGONNE, ILLINOIS**

**1 INTRODUCTION**

This environmental assessment (EA) has been prepared by the U.S. Department of Energy (DOE) in compliance with the National Environmental Policy Act of 1969 (NEPA, 42 USC 4321 et seq.) to evaluate the potential environmental impacts associated with continued and enhanced operation of the Advanced Photon Source (APS), including modifications, upgrades, and new facilities, at Argonne National Laboratory-East (ANL-E) in DuPage County, Illinois (Figure 1.1). ANL-E is a Federal research and development facility operated by the University of Chicago for DOE. The proposed activities are intended to continue providing the nation's most brilliant x-ray beams for physical, chemical, biological, and materials research.



The APS at ANL-E (Figure 1.2) is a national synchrotron-radiation light source research facility. Members of the international synchrotron-radiation research community utilize high-brilliance x-ray beams from the APS to conduct forefront basic and applied research in the fields of materials science; biological science; physics; chemistry; environmental, geophysical, and planetary science; and innovative x-ray instrumentation.



**FIGURE 1.2** Advanced Photon Source, Argonne National Laboratory-East  
(Source: ANL 2002b)